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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,541	10/26/2006	James Andrew Robinson	039016-000002	1855
30565	7590	01/29/2010		
WOODARD, EMHARDT, MORIARTY, MCNETT & HENRY LLP 111 MONUMENT CIRCLE, SUITE 3700 INDIANAPOLIS, IN 46204-5137			EXAMINER HOPKINS, ROBERT A	
			ART UNIT	PAPER NUMBER
			1797	
			NOTIFICATION DATE	DELIVERY MODE
			01/29/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketDept@uspatent.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/553,541	<b>Applicant(s)</b> ROBINSON, JAMES ANDREW	
	<b>Examiner</b> Robert A. Hopkins	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21, 27-31, 38, 39 and 41 is/are pending in the application.
- 4a) Of the above claim(s) 27-31 and 41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21, 38 and 39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Claims 27-31 and 41 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 11-27-09.

Applicant's election with traverse of claims 1-21,38,39 in the reply filed on 11-27-09 is acknowledged. The traversal is on the ground(s) that claims 27-31 and 41 are believed to relate to an invention that shares the same inventive concept as claims 1-21,38, and 39. This is not found persuasive because claims 27-31 and 41 do not include limitations to withdrawing non-condensing gas from a condenser which is required in group I claims :1-21,38,39..

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 112***

Claims 2-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites "the gas withdrawing means". There is a lack of antecedent basis for "the gas withdrawing means" in previous claim limitations. Examiner notes the previous line in claim 2 recites "means for withdrawing non-condensing gas" which is different than "the gas withdrawing means", wherein "the gas withdrawing means" is not a proper 112 sixth paragraph limitation because 112 6th paragraph limitations must

Art Unit: 1797

follow a “means” followed by a function format. Claims 3-21 depend on claim 2 and hence are also allowed.

Claim 11 recites “wherein a shield is located above the or each deflector”. Examiner is unsure as to whether the shield is the same as or different from the deflector. Correction is requested.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Baumann(1941650).

Baumann teaches a method for removing non-condensing gas from a mixture of condensing and non-condensing gases in a condenser(figures 4-7), wherein gas is withdrawn from at least one location(6 in figures 4 and 5) within the condenser to reduce the mass fraction of non-condensing gas immediately adjacent a cooling surface, the location being selected to correspond to a region within the condenser in which the gas is at a temperature which is lower than the temperature of gas in other regions within the condenser.

Claim 2-5,12-14,18-20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Baumann(1941650).

Art Unit: 1797

Baumann teaches a condenser for condensing gas, the condenser comprising a heat exchanging surface (tubes shown in figures 4-7) for condensing a condensing gas (steam) to a liquid, and means (6) for withdrawing non-condensing gas from the condenser, the gas withdrawing means being positioned to withdraw non-condensing gas from at least one location in which the gas temperature is lower than in other regions within the condenser and thereby to reduce the mass fraction of non-condensing gas immediately adjacent the heat exchange surface. Baumann further teaches wherein the gas withdrawing means comprises cooling means for producing a localized region of relatively cold gas in the location from which gas is withdrawn. Baumann further teaches wherein the cooling means comprises a heat exchanger on which gas condenses. Baumann further teaches wherein the cooling means comprises a surface which is configured to be cooled by a flow of coolant. Baumann further teaches wherein the cooling means comprises a primary and secondary heat exchangers (figure 7) both defining heat exchange surfaces, the heat exchange surface of the primary heat exchanger being located upstream of the heat exchange surface of the secondary heat exchanger in the flow of gas to be condensed, and the secondary heat exchanger being cooled to a lower temperature than the primary heat exchanger.

Claim 38 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Baumann (1941650).

Baumann teaches a method for reducing the concentration of non-condensing gas from a mixture of condensing and non-condensing gases in a condenser (figures 4-7) comprising providing a condenser to cool a mixture which includes a condensing gas

Art Unit: 1797

and a non-condensing gas, flowing the mixture within the condenser, cooling the flowing mixture in the condenser, and providing at least one region of relative low mixture temperature within the condenser, the region having relative high concentration of the non-condensing gas, forming condensate in the condenser proximate to the region, and withdrawing gas from the region(gas withdrawal 6) to reduce the overall concentration of the non-condensing gas in the condenser.

Claim 39 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Baumann(1941650).

Baumann teaches an apparatus for condensing gas to liquid comprising a condenser for removing heat from a gas, the condenser having an interior with at least one region of relative low temperature during operation of the condenser, the region being proximate formed condensate during operation of the condenser, and means(6) for withdrawing gas from the region of the condenser to reduce the concentration of a non-condensing gas in the condenser.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baumann(1941650) taken together with Bancel(1585640).

Art Unit: 1797

Baumann teaches all of the limitations of claim 6 but is silent as to wherein the cooling means comprises at least one deflector located beneath the heat exchanging surface such that droplets of liquid fall into and cool the deflector, the gas withdrawing means extracting air from beneath the deflector. Bancel(1585640) teaches a surface condenser including at least one deflector(X) located beneath the heat exchanging surface(tubes L) such that droplets of liquid fall into and cool the deflector, the gas withdrawing means(G) extracting air from beneath the deflector. It would have been obvious to someone of ordinary skill in the art at the time of the invention to provide a deflector positioned over a gas withdrawal device so that the liquid dropping from the heat exchange surface to the collector(5) in Baumann is not collected within the non-condensing gas removed from gas withdrawal pipe(6).

Baumann taken together with Bancel further teaches wherein the at least one deflector comprises a cover extending over an upwardly extending gas withdrawal pipe. Baumann taken together with Bancel further teaches the at least one deflector comprises an elongate gas withdrawal duct, a lower side of which defines apertures through which gas is withdrawn in the elongate duct. Baumann taken together with Bancel further teaches wherein the at least one deflector comprises an elongate duct, an underside of which defines an open channel, the gas withdrawing means being connected to one end of the elongate duct. Baumann taken together with Bancel further teaches wherein the elongate duct extends beneath and in parallel with a heat exchanger tube of the condenser.

Claims 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baumann(1941650)

Baumann teaches all of the limitations of claim 21 but is silent as to means for monitoring the pressure and temperature of gas adjacent the cover plate, and means for controlling the cooling means to maintain the temperature of the cover plate above the freezing point of the condensed liquid. Examiner respectfully submits sensors and controllers for monitoring temperature and pressure of a gas are well known in many technologies, therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to provide means for monitoring the pressure and temperature of gas adjacent the cover plate of Baumann so that the temperature and pressure of the gas is able to be accurately determined.

***Allowable Subject Matter***

Claims 15-17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 15 recites "wherein the primary and secondary heat exchangers are cooled by flows of coolant derived from separate sources, the coolant of the secondary heat exchanger being at a lower temperature than the coolant of the first heat exchanger". Baumann fails to teach wherein the primary and secondary heat exchangers are cooled by flows of coolant derived from separate sources, the coolant of the secondary heat exchanger being at a lower temperature than the coolant of the first heat exchanger. It would not have been obvious to someone of ordinary skill in the art



Art Unit: 1797

at the time of the invention to provide separate sources of coolant because Baumann does not suggest such a modification.

Claim 16 recites “comprising an auxiliary heat exchanger within the condenser, and means for pumping condensed liquid through the auxiliary heat exchanger, the auxiliary heat exchanger being located such that the condensed liquid within it is heated by the gas to be condensed”. Baumann fails to teach an auxiliary heat exchanger within the condenser. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide an auxiliary heat exchanger within the condenser, and means for pumping condensed liquid through the auxiliary heat exchanger, the auxiliary heat exchanger being located such that the condensed liquid within it is heated by the gas to be condensed because Baumann does not suggest such a modification. Claim 17 depends on claim 16 and hence would also be allowable upon incorporation of claim 16 into claim 2.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Thursday, 7:30am-5pm, every Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rah  
January 22, 2010

/Robert A Hopkins/  
Primary Examiner, Art Unit 1797